## AMENDMENTS TO THE SPECIFICATION

**Please amend** the second full paragraph on page 3, beginning at line 12, as follows:

The invention will now be explained in more detail on the basis of exemplary embodiments with reference to the drawing, in which:

Figure 1 shows a schematic representation of a first exemplary embodiment of a circuit arrangement.;

Figure 2 shows a schematic representation of the receiving side of a further exemplary embodiment .;

Figure 3 shows a schematic representation of the receiving side of a further exemplary embodiment.;

Figure 4 shows a schematic representation of the receiving side of a further exemplary embodiment.; and

Figure 5 shows a graphical representation of the first five Hermite functions.

Figure 6 shows an exemplary method of the present invention.

Figure 7 shows another exemplary method of the present invention.

Figure 8 shows a schematic representation of the present invention.

**Please amend** the following paragraphs which are located after the first paragraph on page 8 (i.e., page 8, after line 2), as follows:

Figure 6 shows a method for transmitting at least one message including the steps of coding each of the at least one message using a respective orthogonal function so as to form a transmission signal, each respective orthogonal function being an approximation of a respective Hermite function 30; modulating the transmission signal into higher frequency domains 31; performing a Fourier transform on a received signal 32 ~~31~~; and decoding the Fourier transformed received signal using the respective orthogonal function so as to obtain the at least one message 32; ~~and modulating the transmission signal into higher frequency domains~~ 33.

Figure 7 shows a method for transmitting at least one message, including the steps of coding, using a coding device at a transmission side for coding, each of the at least one message using a respective orthogonal function so as to form a transmission signal, each respective

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orthogonal function being an approximation of a respective Hermite function 34; and recovering, using a demodulation device at a receiving side, the at least one message from a received signal via a decoding using the respective orthogonal function, the demodulation device including a Fourier-transform device for performing a Fourier transform on the received signal before the decoding. The demodulation device may include a respective first decoder unit corresponding to each of the at least one message, each respective first decoder unit including a respective first multiplier, a respective first integrator and a respective first discriminator connected in series. Each respective first decoder unit may be used for decoding the signal in a time domain. The demodulation device further may include a respective second decoder unit associated with each respective first decoder unit, each respective second decoder unit being for decoding the signal in a frequency domain and including a respective second multiplier, a respective second integrator and a respective second discriminator connected in series.

Fig. 8 shows an exemplary embodiment of a device 40 having parts of which are similar to Figs. 1 and/or 2. Provision is made for a Fourier-transform device 41 which transforms received signal r(t) into the frequency domain and then feeds this transformed signal to multipliers 45 in decoder units 55. The decoder unit 55 has a multiplier 45 in series with an integrator 47 in series with a discriminator 49, to provide output component $n_0$... $n_{L-1}$. The received signal r(t) of the time domain is fed to multipliers 45 in decoder units 53. The decoder unit 53 has a multiplier 43 fed in series to an integrator 46 in series with a discriminator 48, to provide output component $\acute{n}_0$... $\acute{n}_{L-1}$.

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